

FAS – Office of Global Analysis (OGA)
United States Department of Agriculture (USDA)
International Operational Agriculture Monitoring Program



January Summary

February 3, 2008

1. Production for MY 2008/09 winter wheat and barley crop is forecasted to be lower than MY 2007/08. This conclusion is supported by PRT reports, the extent of drought in comparison to historical agro-meteorological data, MODIS Normalized Difference Vegetation Index (NDVI) time-series data, and the current state of cropland condition and abundance captured by high and moderate resolution remotely sensed images. The most significant reduction in cropland cover in comparison to the previous year is predominantly in the northern rainfed regions; most fields were reportedly not planted. Most winter grains production for MY 2008/09 will occur in the central and southern irrigated provinces, but some decreases are expected due to low water levels and a progressively degraded infrastructure. Furthermore, the winter grains crop for MY 2008/09 did not receive sufficient amounts of precipitation during crucial planting and establishment stages (Figure 1).
2. Cumulative precipitation remains well below normal for most of the country, especially in the northern rainfed provinces (Figure 2). Rain events during the beginning of December 2007 slightly improved soil moisture conditions and cumulative precipitation for the most northern rainfed provinces, but have since remained dry.
3. Maximum value NDVI composites derived from MODIS 250-meter resolution imagery were compared for differences in cropland abundance (Figure 3). A change detection analysis between 2006/07 (Nov – Jan) and 2007/08 (Nov – Jan) showed that the northern provinces have significantly less cropland in comparison to the previous year. Furthermore, the analysis revealed significantly less cropland in the northern and portions of the southern provinces compared to the 6-year average (Figure 4). These significant deviations of cropland abundance from the 6-year average could be attributed to a degraded irrigation infrastructure. The overall results of the change detection analysis showed approximately *732 000 ha less cropland than the previous year, nearly a 46% difference. *Note: this area metric includes all cropland cover in Iraq and will change as the season progresses.
4. In regards to the most current conditions, AWiFS-P6 NDVI composite as of January 21, 2008 showed the majority of healthy, green cropland in irrigated provinces (Figure 5). A change analysis performed between imagery collected during the month of November and January showed slight to significant increases in cropland cover mainly in irrigated areas in central and southern Iraq (Figures 6). Cropland area increased approximately 670 000 hectare from November 2007 to January 2008.

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5. Vegetation maps derived from high resolution Quickbird imagery collected over AOI's 16 and 5 were used to compare the degree of green-up between the months of November 2007 and January 2008. The sample areas span major cropland in the central and northern provinces of Salah ad Din and Ninawa. AOI 16, Salah ad Din, which is mainly irrigated, revealed significant increases in cropland cover of approximately 1700 ha, or 11% of the study area. These increases are mainly attributed to relatively sufficient irrigation, whereas any decreases are mainly due to harvested fields and decreased natural vegetation cover (Figure 7). In contrast, AOI 5, Ninawa, which is mainly rainfed, showed no changes in cropland vegetation cover (Figure 8).

Data Source: PSD Online

IRAQ WHEAT 2002/03 – 2007/08 (Lower-15 Provinces)*			
Date (MY)	Area Harvested (1000 Hectare)	Yield (MT/Hectare)	Production (MMT)
2002/03	1650	1.57	2.59
2003/04	1715	1.36	2.33
2004/05	1540	1.19	1.83
2005/06	1800	1.22	2.20
2006/07	1514	1.51	2.29
2007/08	1800	1.22	2.20
Mean ('02-'08)	1643.8	1.37	2.25

IRAQ BARLEY 2002/03 – 2007/08 (Lower-15 Provinces)*			
Date (MY)	Area Harvested (1000 Hectare)	Yield (MT/Hectare)	Production (TMT)
2002/03	1300	0.77	1000
2003/04	1060	0.81	861
2004/05	957	0.84	805
2005/06	1137	0.66	754
2006/07	1025	0.9	920
2007/08	1000	0.8	800
Mean ('02-'08)	1079.83	0.79	856.67

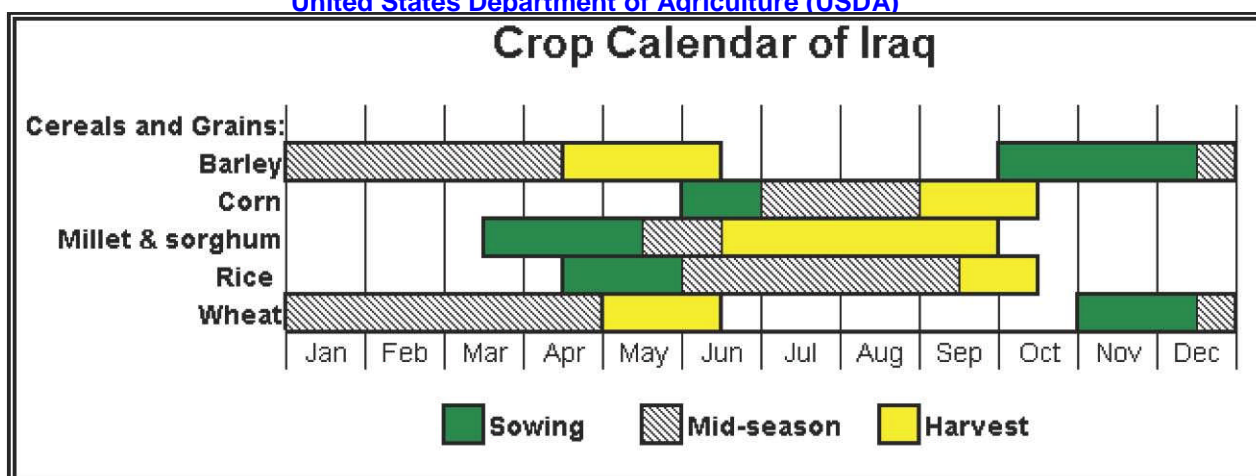


Figure 1: Crop calendar for Iraq. Note the planting season for winter wheat and barley between the months of Sept. – Nov.

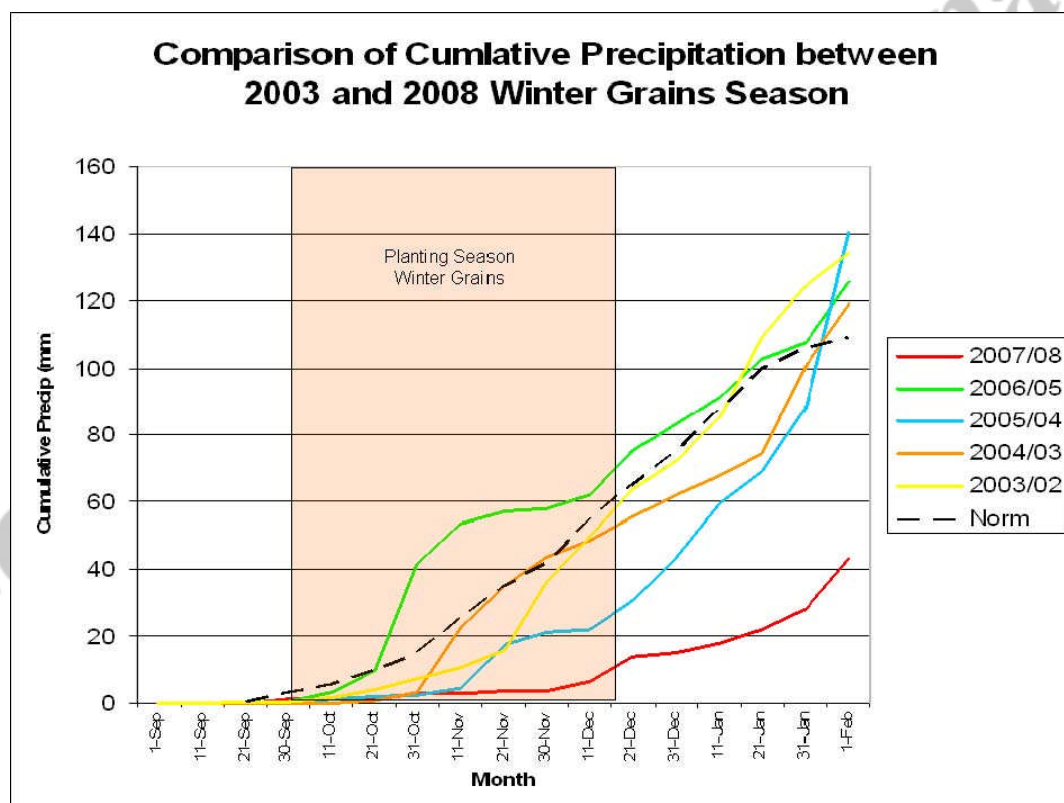


Figure 2: AFWA Cumulative Precipitation time-series for the northern provinces of Iraq. The 2007/08 crop received well below normal precipitation during critical establishment stages.

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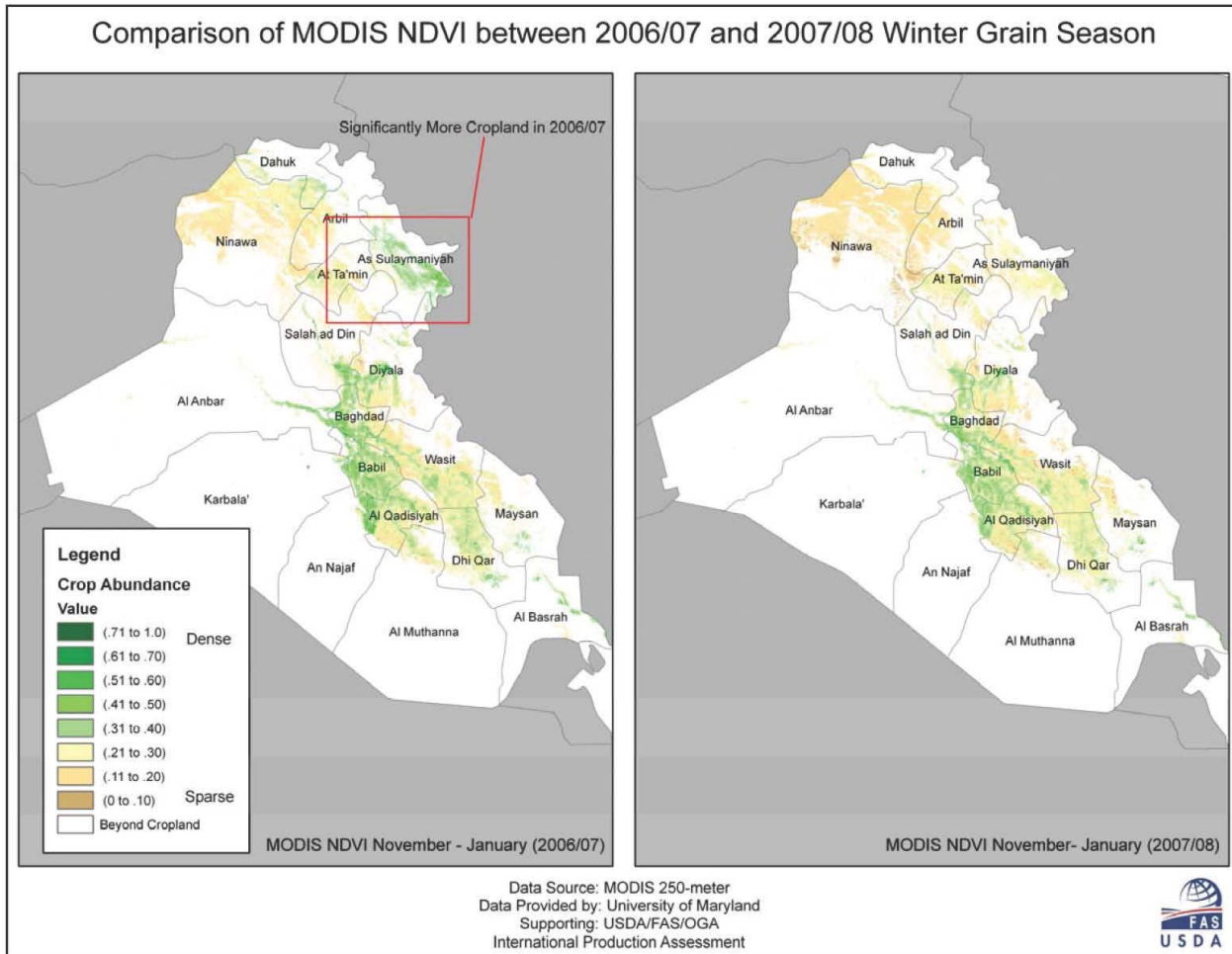


Figure 3: Comparison of crop abundance between the 2006/07 and 2007/08 season (current).

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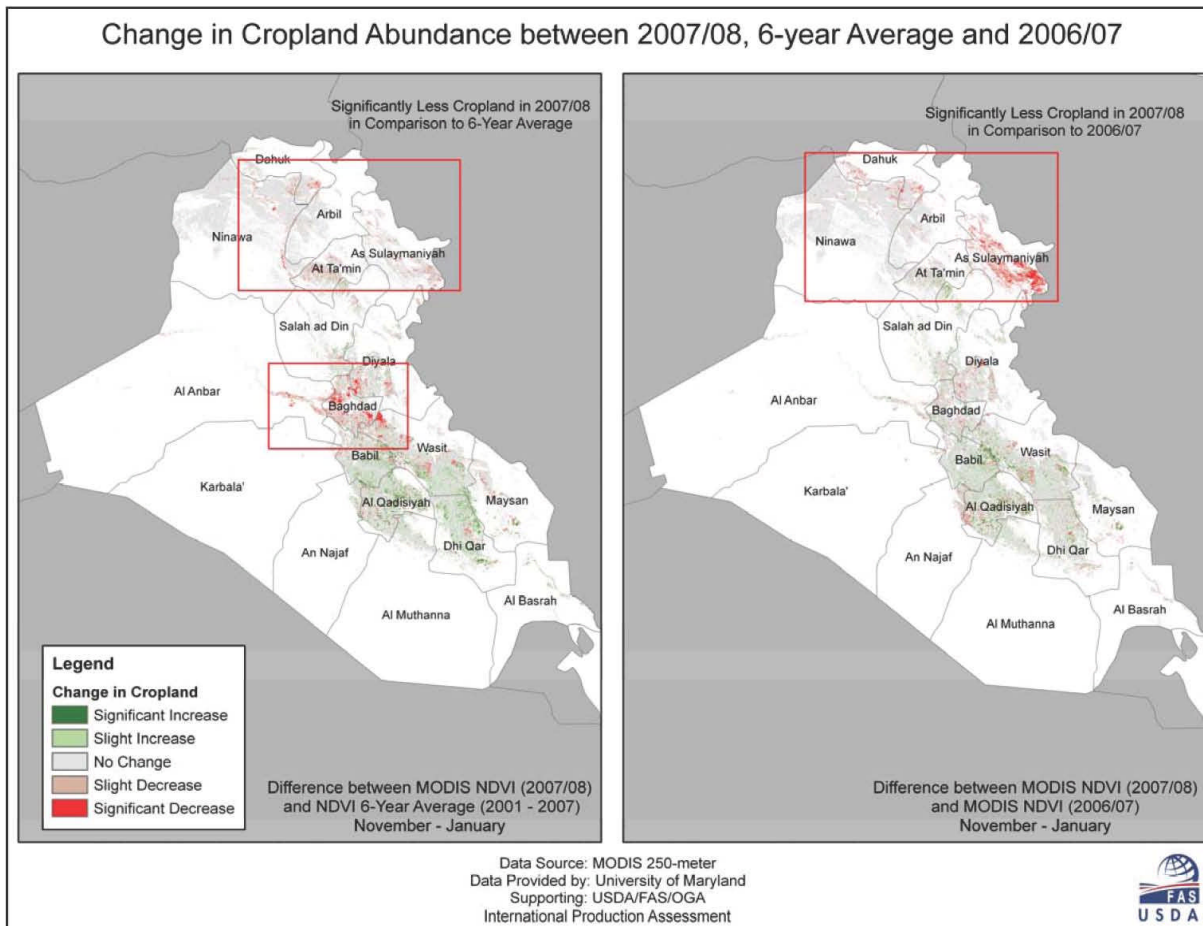


Figure 4: Change in cropland abundance between 2007/08 (current) and 2006/07 (last year), and between the 6-year average.

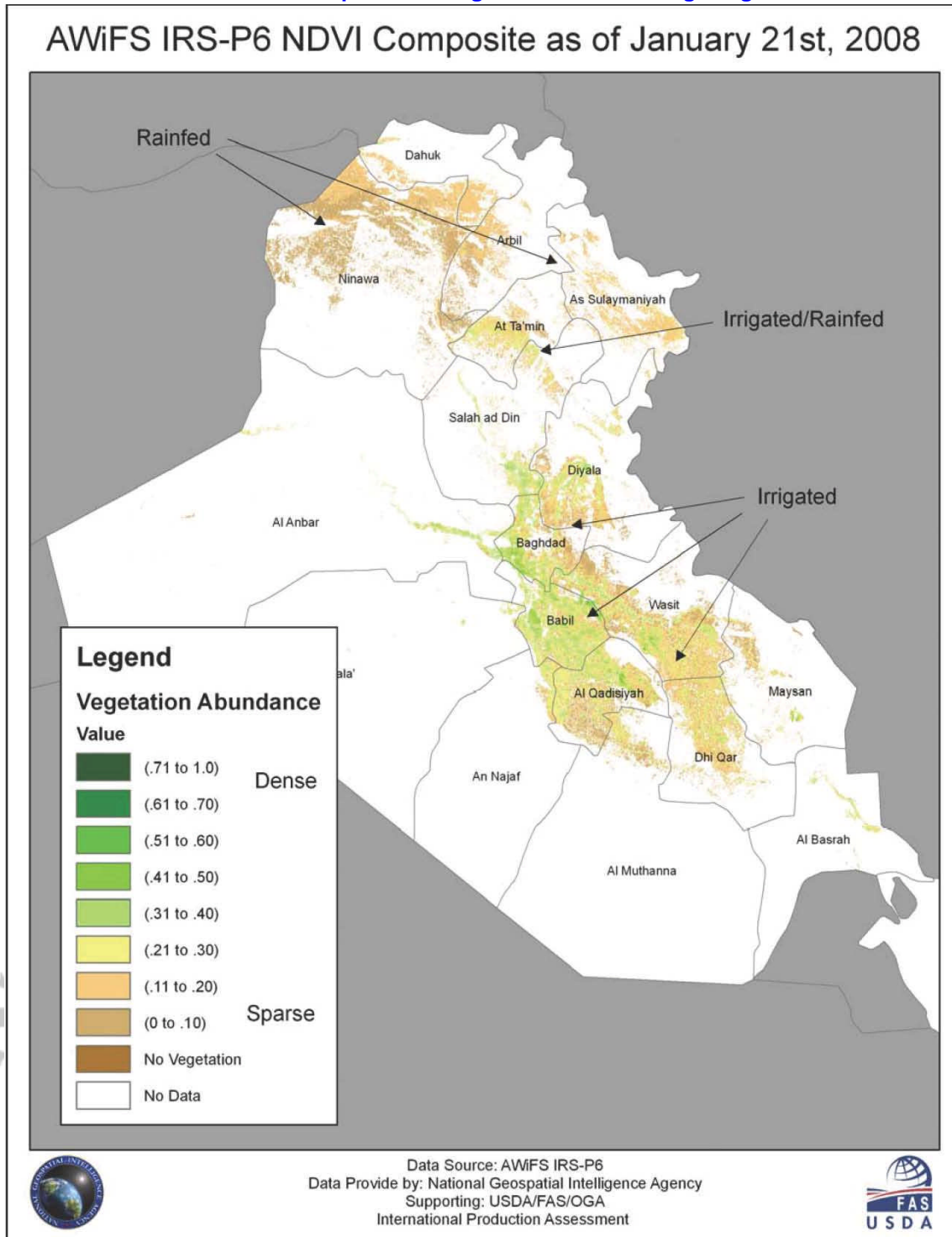


Figure 5: NDVI composite revealing highest crop abundance in irrigated regions. Rainfed areas reflect sparse vegetation only.

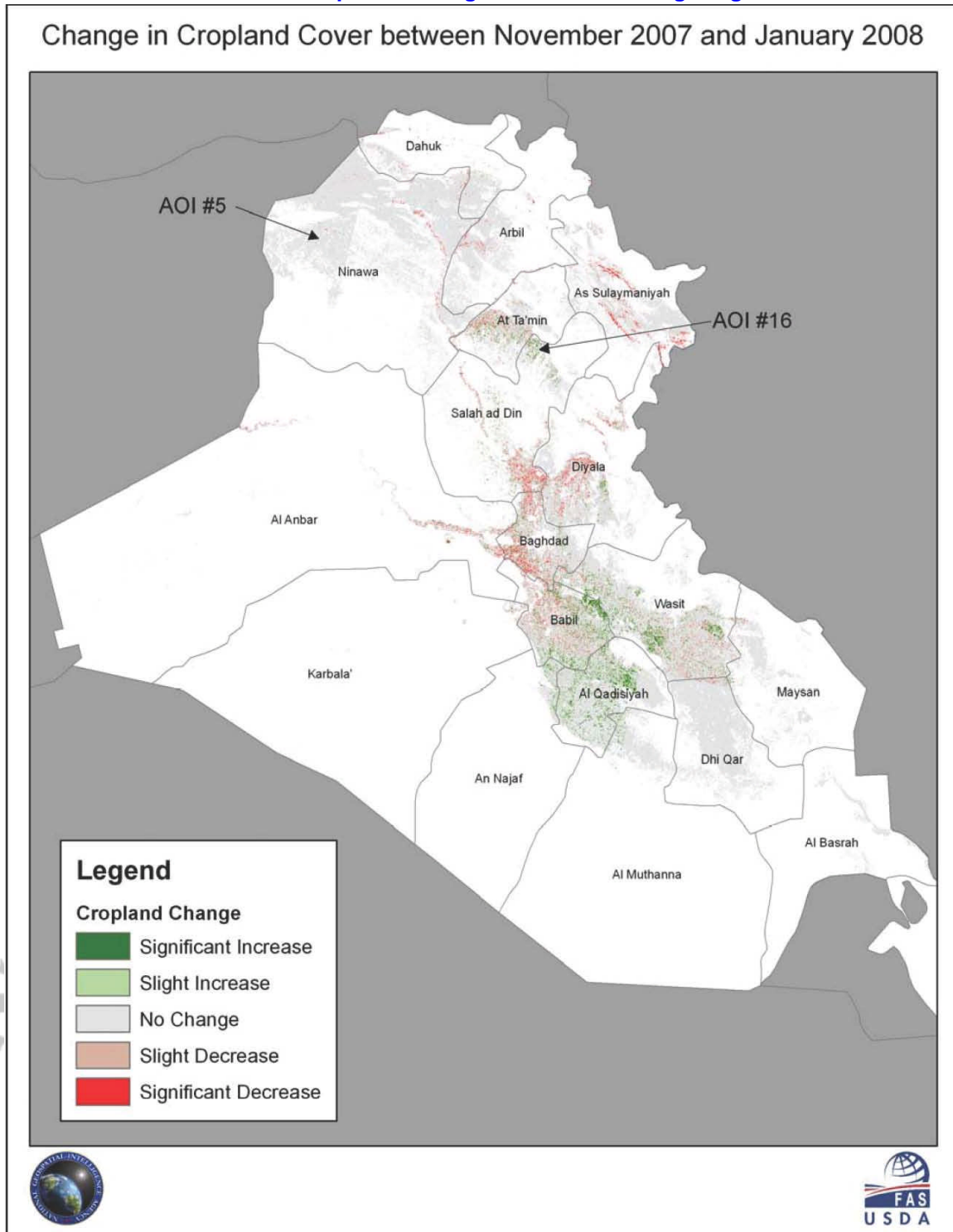


Figure 6: Change analysis between November 2007 and January 2008 cropland cover shows majority of increase in irrigated regions.

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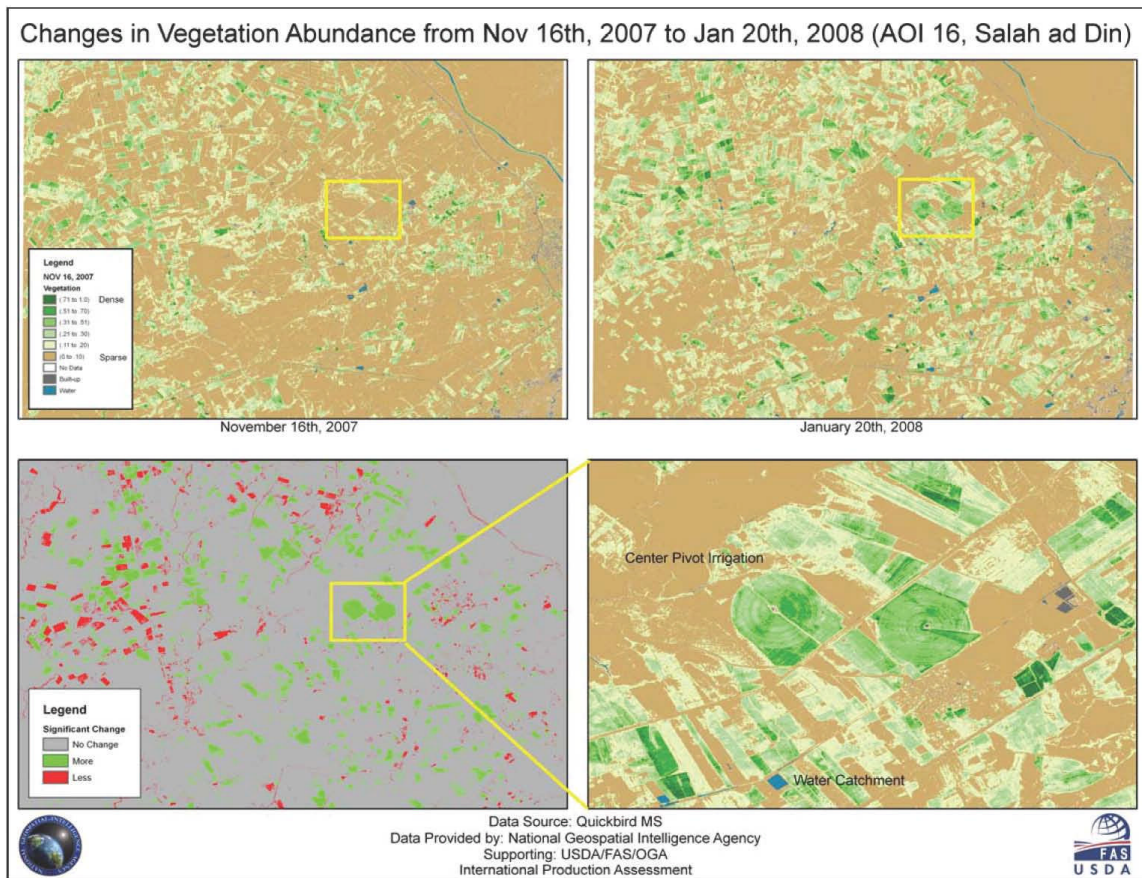


Figure 7: Comparison of imagery collected between November 16th, 2007 and January 20th, 2008 over AOI #16, Salah ad. Change analysis reveals increased cropland cover in irrigated fields.

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Changes in Vegetation Abundance from Nov 29th, 2007 to Jan 22nd, 2008 (AOI 05, Niniwa)

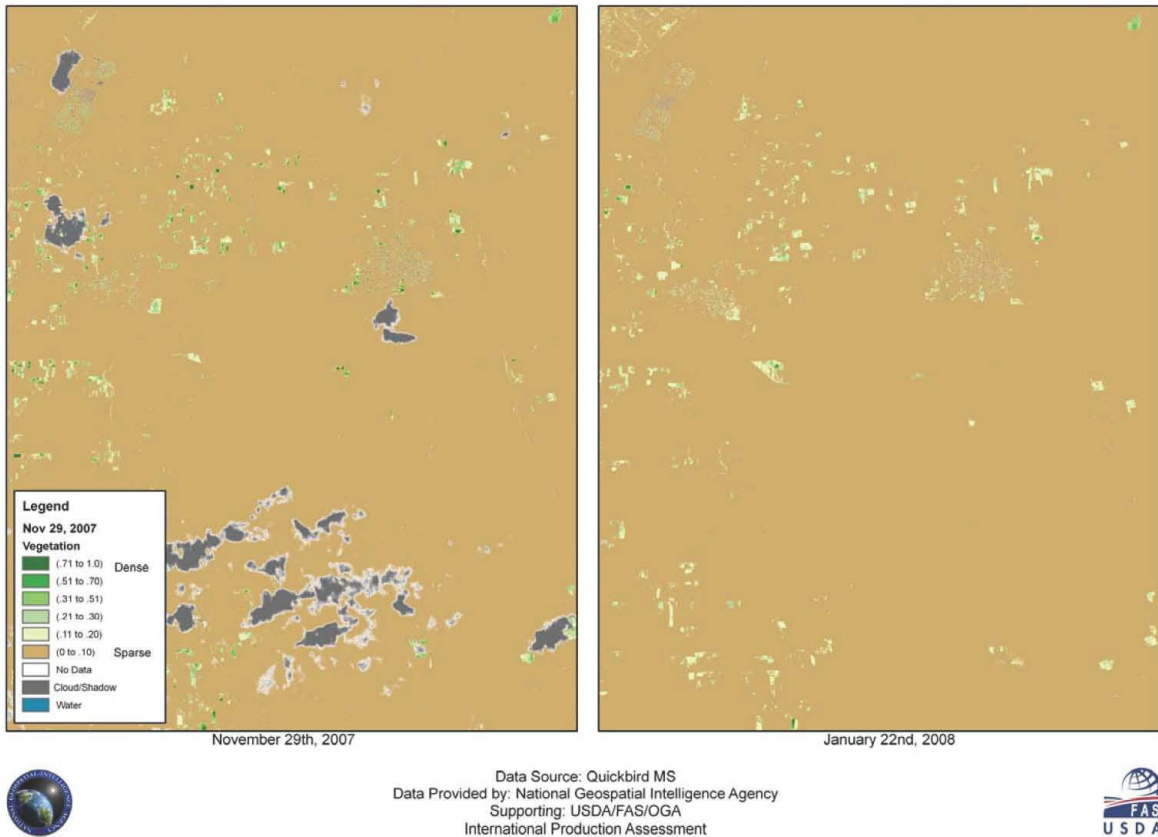


Figure 8: Comparison of imagery collected between November 29th, 2007 and January 22nd, 2008 over AOI #5, Niniwa. Change analysis reveals no cropland cover due to insufficient precipitation during crop planting stage.